REMARKS

SUMMARY OF THE AMENDMENTS

The present application contains twenty-two (22) claims, numbered 1-20 and 22-23.

Claims 12, 13 have been amended to rectify a deficiency pointed out by the Examiner.

Claim 21 has been cancelled.

It is believed that no new matter has been added by way of the present amendment.

RESPONSE TO "CLAIM REJECTIONS - 35 USC § 112"

On page 2 of the Office Action, claims 12 and 13 were rejected under 35 USC § 112, second paragraph, as being indefinite. In particular, the Examiner found that there is insufficient antecedent basis for the term "the communication". In response, the Applicant has amended claims 12 and 13 to correct a minor error contained therein. Instances of the term "the communication" referred to by the Examiner now read "the communication apparatus", which has proper antecedent basis in the claims.

On page 2 of the Office Action, claims 19 and 21 were rejected under 35 USC § 112, second paragraph, as being indefinite. In particular, the Examiner considers that there the term "negative" is vague and indefinite. Claim 21 has been cancelled and therefore the Examiner's rejection is moot in respect of this claim. With respect to claim 19, the Applicant respectfully disagrees with the Examiner's assessment of the claim, and submits that the term "negative" as used in claim 19 would be clearly understood by a person skilled in the art. In particular, it is believed that a negative determination of whether the target in-path gateway is involved in a prior codec-bypass connection with the second gateway would have a clear meaning to the skilled person since grammatical syntax holds that Boolean determinations characterized by the term "whether" generally have only one of two possible outcome, a positive outcome, wherein the statement following the term "whether" is true, and a negative outcome, wherein that statement is incorrect. A negative determination in such a case is therefore a clear expression with unambiguous meaning. As such, it is believed that claim 19 points out and distinctly claims the subject matter which the applicant regards as his invention, as required under 335 US § 112.

In light of the foregoing, it is respectfully submitted that the claims meets the requirements of 35 USC § 112 and the Examiner is respectfully requested to withdraw the rejection of claims 12, 13 and 19.

RESPONSE TO "CLAIM REJECTIONS - 35 USC § 103"

A. Response to Paragraph 7

On page 3 of the Office Action, claims 1-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent no. 6,324,409 (hereinafter referred to as Shaffer) and U.S. Patent no. 7,240,000 (hereinafter referred to as Harada). Applicant respectfully disagrees, and submits that the aforementioned claims distinguish clearly and patentably over the combination of Shaffer and Harada.

Claim 1

Claim 1 is reproduced below for the Examiner's convenience (emphasis added):

1. A communication apparatus, comprising:
- a first interface for exchanging data with a first neighboring entity;
- a second interface for exchanging data with a second neighboring entity;
- a memory for storing codec information regarding said communication apparatus;
- a control entity operative to detect a first message from the first neighboring entity via the first interface, the first message being indicative of codec information regarding an originating entity;
- responsive to detection of the first message, the control entity being operative to perform an assessment of compatibility between the codec information regarding the originating entity and the codec information regarding said communication apparatus;
- **responsive to the assessment of compatibility being positive, the control entity being operative to self-identify the communication apparatus as a candidate for terminally supporting a subsequent codec-bypass negotiation with the originating entity;**
- **responsive to the assessment of compatibility being negative, the control entity being operative to self-identify the communication apparatus as a candidate for non-terminally supporting a subsequent codec-bypass negotiation with the originating entity.**

It is respectfully submitted that the combination of Shaffer and Harada does not render obvious the subject matter of claim 1.

More specifically, Shaffer discloses a system for selecting voice compression and coding based on the capability of intermediary network links and end points (col. 2, ln. 16-20). In Shaffer, two end points, such as telephony-over-LAN (TOL) clients are connected via respective gateways, a PBX and the PSTN (Fig. 2; col. 5, ln. 56- col. 6, ln. 3). Telephony Internet Servers (TIS) may also be present between the two end points (Fig. 3; col. 6, ln. 22-29). In a communication between endpoints, a sender sends a signalling message such as an ISDN signalling message, a user-to-user signal or an IP packet (col. 6, ln. 56-61). The signalling message is then used to *collect* signal coding or compression capability of at least one (preferably all) intermediary station (Fig. 4, step 402; col. 7, ln. 1-6). That is, *the station(s) lists its(their) capabilities onto the signalling message* (col. 7, ln. 12-15). After the intermediary station(s), the signalling message then collects the capabilities of the receiver (col. 7, ln. 15-16) and is returned to the sender (col. 7, ln. 21-23). With this information, the information on the capabilities of the receiver and intermediary station(s), the end-to-end signalling scheme is determined. This may be done at the sender by the sender or by an intermediary station, in which case the signalling scheme selected is communicated to the sender (col. 7, ln .30-45). The method for selecting a coding scheme is illustrated in Figures 6A-6B. In short, a coding scheme is selected on the basis of which preferred coding scheme can be employed by the receiver and intermediary station(s) or simply which scheme allows no or minimal transcoding steps in the transmission (col. 9, ln. 5-61).

As conceded by the Examiner, it will be appreciated that Shaffer does not disclose "responsive to the assessment of compatibility being positive, the control entity being operative to self-identify the communication apparatus as a candidate for terminally supporting a subsequent codec-bypass negotiation with the originating entity" and "responsive to the assessment of compatibility being negative, the control entity being operative to self-identify the communication apparatus as a candidate for non-terminally supporting a subsequent codec-bypass negotiation with the originating entity". Rather, in Shaffer the intermediary stations in merely add a list of their own capabilities in a signalling message being transmitted through them. This is done invariably and with no analysis of the compatibility of coding schemes. Later, when the signalling message has collected all capabilities information, a selection of a coding scheme is made without self-identification on the part of stations as to whether they are candidates for terminally supporting codec-bypass negotiation with the originating entity or as

to whether they are candidates for non-terminally supporting codec-bypass negotiation with the originating entity.

Harada, for its part, describes a method of controlling the speech code used between communication end points. In particular, two mobile switching centers proximate mobile terminals, communicate with one another to determine whether the coding processes employed by their respective mobile terminals are the same. If they are, they pass along data between mobile terminals directly (col. 3, ln. 30-34). If they are not the same, then a general-purpose coding process is used for the signal to transmit it between the mobile switching centers through an IP network separating the mobile switching centers (col 3, ln. 34-38). In addition, the two mobile switching centers may determine when a call is established whether their respective mobile terminals have a common coding process that can be used by both and instruct the mobile terminals to use a common coding process to prevent the need for conversion at the mobile switching center (col. 3, ln. 50-63). If while the switching centers are transmitting signal directly between the mobile terminals, one of the mobile terminals requests a service that cannot be used according to the coding process currently in use, the mobile switching center may switch to a general-purpose coding process to provide the requested service (col. 3, ln. 64 – col. 4, ln. 12). Also, if the system is used with IP switching centers (instead of mobile switching centers), the IP switching centers can also change coding process, by alternating between high bit rate and low bit rate processes depending on the load of the IP network they operate on (col. 6, ln. 20-31).

Firstly, it will be clear that Harada is concerned with communication between two (mobile or IP) switching centers, and Harada is not concerned with in-path gateways (see for example, Figures 1-5, 8 and 10-13). Secondly, it will be appreciated that Harada does not consider whether the switching centers can terminally or non-terminally support a codec-bypass negotiation, rather Harada considers whether the mobile terminals are using the same codec and decides whether or not to directly pass their signals to one another on this basis. Thirdly, it will be appreciated that in this decision, Harada's switching centers do not assess compatibility between their own codec information and that of an originating entity (whether that be their respective mobile terminals or something else) but rather base their decision on the compatibility of the two communicating mobile terminals that are endpoints in the communication. Thus, nothing is done responsive to such an assessment of compatibility

between the codec information regarding the originating entity and the codec information regarding said communication apparatus being positive or negative.

That Harada's switching centers do not assess compatibility between their own codec information and that of an originating entity is demonstrated in the passage cited by the Examiner (col. 7, ln. 31-44), where it is stated that the mobile switching center "determines whether the coding process *used by the mobile terminal* to communicate with the and the coding process *used by the by the mobile terminal of its own* are the same as each other" (emphasis added). This is without an assessment of compatibility between the codec information regarding an originating entity and its own codec information. Thus, it will be appreciated that Harada does not disclose anything occurring responsive to such an assessment. In particular, Harada does not disclose "responsive to the assessment of compatibility being positive, the control entity being operative to self-identify the communication apparatus as a candidate for terminally supporting a subsequent codec-bypass negotiation with the originating entity" and "responsive to the assessment of compatibility being negative, the control entity being operative to self-identify the communication apparatus as a candidate for non-terminally supporting a subsequent codec-bypass negotiation with the originating entity".

Notwithstanding the foregoing, the Applicant would also like to point out that whereas the Examiner concedes that Shaffer does not disclose these features of claim 1, the Examiner did not show that these features are taught by Harada. Instead, the Examiner merely alleges that Harada discloses "determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication" that "thus it would have been obvious [...] to use the determination if using the same coding [...] as taught by Harada in the system and method for optimizing telecommunication signal quality of Shaffer in order to reduce the load of IP network and increase the signal quality of speech". Yet nowhere does the Examiner demonstrate how Harada may provide "responsive to the assessment of compatibility being positive, the control entity being operative to self-identify the communication apparatus as a candidate for terminally supporting a subsequent codec-bypass negotiation with the originating entity" and "responsive to the assessment of compatibility being negative, the control entity being operative to self-identify the communication apparatus as a candidate for non-terminally supporting a subsequent codec-

bypass negotiation with the originating entity". In fact, it is respectfully submitted that Harada does not disclose these features, as described above, that are also absent from Shaffer.

Thus, significant differences exist between the claimed subject matter and the cited art. It is respectfully submitted that these differences are beyond the level of ordinary skill in the art, and the Examiner is therefore respectfully requested to withdraw the rejection of claim 1.

Claims 16 and 17

These claims include language similar to that of claim 1 and therefore it is respectfully submitted that claims 16 and 17 similarly distinguish over the combination of Shaffer and Harada. The Examiner is therefore respectfully requested to withdraw the rejection of claims 16 and 17.

Claims 2-15

It is noted that claims 2-15 depend from claim 1 and, as such, incorporate by reference all the features contained therein, including those that confer patentability to claim 1 over the combination of Shaffer and Harada, as well as additional features that further distinguish the claimed invention over the combination of Schaffer and Harada. The Examiner is therefore respectfully requested to withdraw the rejection of claims 2-15.

Claim 18

Claim 18 is reproduced below for the Examiner's convenience (emphasis added):

> 2. A method of establishing a codec-bypass connection between a first gateway and one of a plurality of in-path gateways located along a path from the first gateway to a second gateway, comprising:
> - **identifying a target in-path gateway from among the plurality of in-path gateways, the target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway;**

- establishing a codec-bypass connection between the first gateway and the target in-path gateway.

It is respectfully submitted that the combination of Shaffer and Harada does not render obvious the subject matter of claim 18.

With respect to Shaffer, the Examiner concedes that Shaffer does not disclose "the target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway" but alleges that this reference teaches "identifying a target in-path gateway from among the plurality of in-path gateway". With due respect, the Applicant submits that Shaffer cannot teach the latter of these portions of claim 1 without teaching the former, since the "target in-path gateway" in "identifying a target in-path gateway from among the plurality of in-path gateway" *is* "the target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway" as recited in claim 18.

Moreover, it is respectfully submitted that Shaffer does not disclose "identifying a target in-path gateway from among the plurality of in-path gateways, the target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway". Shaffer suggests that if there is no result which allows the call to be performed without transcoding, then a result which performs the call with a minimum number of transcodings is selected (col. 9, ln. 35-39). However, specific details of implementation are not provided and nowhere is the distance along a path from a first gateway taken into consideration in Shaffer.

Turning now to Harada, the Examiner alleges that Harada discloses "determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication" and that "thus it would have been obvious [...] to use the determination if using the same coding [...] as taught by Harada in the system and method for optimizing telecommunication signal quality of Shaffer in order to reduce the load of IP network and increase the signal quality of speech". Firstly, the Applicant would like to point out that in no way does "determining if same coding type and indication of whether it is

the same type or not for coding-bypass communication or tandem communication" imply "identifying a target in-path gateway from among the plurality of in-path gateways, the target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway". Indeed, there is no reference to distance along a path from a first gateway at all in the section cited by the Examiner. Thus it is respectfully submitted that the Examiner has not demonstrated that Harada discloses this feature of claim 18.

Furthermore, it is respectfully submitted that this feature is plainly absent from Harada. Indeed, as described above, Harada is concerned with tandem or bypass operation between two switching centers (see Figures 1-5, 8 and 10-13). There is simply no identifying of target gateways, and particularly not on the basis of a distance along a path from a first gateway.

Thus, significant differences exist between the claimed subject matter and the cited art. It is respectfully submitted that these differences are beyond the level of ordinary skill in the art, and the Examiner is therefore respectfully requested to withdraw the rejection of claim 18.

B. Response to Paragraph 8

On page 11 of the Office Action, claims 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Shaffer and Harada as applied to claim 20, and further in view of U.S. Patent no. 6,600,738 (hereinafter referred to as Alperovich). Claim 21 has been cancelled and therefore the Examiner's rejection is moot in respect of this claim. With regard to claims 19 and 20, Applicant respectfully disagrees, and submits that the aforementioned claims distinguish clearly and patentably over the combination of Shaffer, Harada and Alperovich.

It is noted that claims 19 and 20 depend from claim 18 and, as such, incorporate by reference all the features contained therein, including those that confer patentability to claim 18 over the combination of Shaffer and Harada, as well as additional features that further distinguish the claimed invention over the combination of Shaffer and Harada.

Turning now to Alperovich, the Examiner alleges that this reference teaches: "a plurality of gateways [...]; the ranking of the possible pathways [...]; the gateways are ranked based on the gateway codec availability, and the core network is adapted to route a voice call as a function of the gateway ranking [...]; allows a call to be placed over the core IP network for as long as possible to decrease transmission costs[...]".

However, if Alperovich adds nothing more than these alleged teachings, then Alperovich fails to overcome the deficiencies of Shaffer and Harada that were discussed above in respect of claim 18, on which claims 19 and 20 depend.

Thus, it is respectfully submitted that the differences between claims 29 and 20 and the cited art are beyond the level of ordinary skill in the art. The Examiner is therefore respectfully requested to withdraw the rejection of claims 19 and 20.

C. Response to Paragraph 9

On page 12 of the Office Action, claims 22 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Alperovich in view of Harada. Applicant respectfully disagrees, and submits that the aforementioned claims distinguish clearly and patentably over the combination of Alperovich and Harada.

Claim 22

Claim 22 is reproduced below for the Examiner's convenience (emphasis added):

22. A method of establishing a codec-bypass connection along a path between a first gateway and a second gateway, the path comprising a plurality of in-path gateways, comprising:
- **identifying a first sub-path between the first gateway and a first target in-path gateway from among the plurality of in-path gateways, the first target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway;**
- **identifying a second sub-path between the second gateway and a second target in-path gateway from among the plurality of in-path gateways, the second target in-path gateway being the in-path gateway furthest along the path from the second gateway**

which is characterized by codec-bypass connection compatibility with the second gateway;

- determining the lengths of the first and second sub-paths;
- **if the first sub-path is longer than the second sub-path, establishing a codec-bypass connection between the first gateway and the first target gateway;**
- **if the second sub-path is longer than the first sub-path, establishing a codec-bypass connection between the second gateway and the second target gateway.**

It is respectfully submitted that the combination of Alperovich and Harada does not render obvious the subject matter of claim 22.

More specifically, Alperovich discloses a method of selecting a gateway having a codec of the same type as the subscriber codec type or best adapted for the subscriber codec type (col. 1, ln. 64-66). Gateways are ranked based on the gateway codec availability and the core network is adapted to route a voice call as a function of the gateway *ranking* (col. 2, ln. 9-11). To this end, a Routing Preference Indicator (RPI) is introduced in a call that allow network nodes in the core network to intelligently choose a gateway *based on subscription preferences*. First, the system of Alperovich uses resident optimal routing criteria to scan a list of compatible gateways and provide a list of suitable gateways (col. 5, ln. 22-25). To this end, as illustrated in Figure 3, when a call is initiated, a list of the available gateways is compiled, putting optimal gateways on the top of the list (col. 5, ln. 34-47). Then, the system of Alperovich uses this list to determine which gateway to route the call to (col. 5, ln. 26-28). This is illustrated in Figure 4. At this point, if the subscriber has a codec preference, the call is set up through the optimal gateway that supports this codec preference. If no optimal gateway supports the preference, the call is set up through an alternative gateway that supports the codec request if this is acceptable. If no gateway support the codec preference, the voice signal is downgraded to accommodate the codec at the optimal gateway (col. 5, ln .59 – col. 6, ln. 13). The list is shown in Figure 6. The ranking of possible pathways may include gateways or paths chosen and nodes between end destination and chosen gateways. Geographical area of the available gateways may be dicvided into zones to allow the selection of a gateway closes in proximity to the end destination (col. 6, ln. 22-35).

Although Alperovich thus considers the distance of gateways, it lacks in two important respects: Firstly, Alperovich does not suggest identifying a gateway that is furthest along the

path from the first gateway *which is characterized by codec-bypass connection compatibility with the first gateway*. Rather, Alperovich merely considers using the single gateway that is closest to the destination, and if there is a tie (two gateways in the same zone), then to break the tie based the best codec (see "physical geographical area of the available gateways may be divided into zones [...] to allow the MSC server 37 to select a gateway in closest proximity to the end destination. If the function or module 56 finds two or more gateways within the same zone, the best codec can be chosen within the same zone." – col. 4, ln. 30-35). Secondly, Alperovich considers only selecting a gateway *in closest proximity to the end destination*. As such, Alperovich does not teach both "identifying a first sub-path between the first gateway and a first target in-path gateway from among the plurality of in-path gateways, the first target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway" and "identifying a second sub-path between the second gateway and a second target in-path gateway from among the plurality of in-path gateways, the second target in-path gateway being the in-path gateway furthest along the path from the second gateway which is characterized by codec-bypass connection compatibility with the second gateway" nor "determining the lengths of the first and second sub-paths" establishing a connection over the longer of these two sub paths. Such comparison simply is not taught in Alperovich.

Turning now to Harada, the Examiner merely alleges that Harada discloses "coding-bypass communication" and that "thus it would have been obvious [...] to use the coding-bypass communication [...] as taught by Harada in the routing in an IP network based on bodec availability and subscriber preference of Alperovich in order to reduce the load of IPnetwork and increase the signal quality of speech." However, it is respectfully submitted that Harada does not disclose identifying a sub-path between a particular gateway and a target in-path gateway from among a plurality of in-path gateways, the target in-path gateway being an in-path gateway furthest along a path from the particular gateway which is characterized by codec-bypass connection compatibility with the particular gateway. Indeed, as described above, Harada is concerned with tandem or bypass operation between two switching centers (see Figures 1-5, 8 and 10-13). There is simply no identifying of target gateways, and particularly not on the basis of a distance along a path from a first gateway.

As such, it will be appreciated that Harada also fails to disclose "identifying a first sub-path between the first gateway and a first target in-path gateway from among the plurality of in-path gateways, the first target in-path gateway being the in-path gateway furthest along the path from the first gateway which is characterized by codec-bypass connection compatibility with the first gateway" and "identifying a second sub-path between the second gateway and a second target in-path gateway from among the plurality of in-path gateways, the second target in-path gateway being the in-path gateway furthest along the path from the second gateway which is characterized by codec-bypass connection compatibility with the second gateway" nor "determining the lengths of the first and second sub-paths" establishing a connection over the longer of these two sub paths. These features are simply not taught in Harada.

Thus, differences exist between the claimed subject matter and the cited art. It is respectfully submitted that these differences are beyond the level of ordinary skill in the art, and the Examiner is therefore respectfully requested to withdraw the rejection of claim 1.

Claim 23

It is noted that claim 23 depends from claim 22 and, as such, incorporate by reference all the features contained therein, including those that confer patentability to claim 22 over the combination of Alperovich and Harada, as well as additional features that further distinguish the claimed invention over the combination of Alperovich and Harada. The Examiner is therefore respectfully requested to withdraw the rejection of claim 23.

CONCLUSION

In view of the foregoing, Applicant is of the view that claims 1-20 and 22-23 are in allowable form. Favourable reconsideration and withdrawal of all rejections is respectfully requested. Early allowance of the Application is earnestly solicited.

If the application is not considered to be in full condition for allowance, for any reason, Applicant respectfully requests the constructive assistance and suggestions of the Examiner for placing the application in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,

Sanro Zlobec, Reg. No. 52,535
Agent for Applicants

Date: May 13, 2010

SMART & BIGGAR
1000 de la Gauchetière Street West
Suite 3300
Montreal, Quebec H3B 4W5
CANADA
Tel: (514) 954-1500
Fax: (514) 954-1396